

REMARKS/ARGUMENTS

Upon careful and complete consideration of the final Office Action dated July 23, 2007, and the Advisory Action dated October 1, 2007, applicants have requested further amendment to the claims which, when considered in conjunction with the comments herein below, are deemed to place the present application into condition for allowance. Favorable reconsideration of this application, as amended, is respectfully solicited.

Applicants once again note that the final action maintained the previously issued restriction requirement. As a result, claims 28-38, 61 and 62 are withdrawn. Applicants have reserved the right to file a divisional application directed to the subject matter of these claims.

Although the last office action withdrew the previous rejections of the claims based on 35 U.S.C. §102 (b), the final action rejected the claims as allegedly being obvious under 35 U.S.C. §103(a) over U.S. Patent No. 5,466,294 to Kearney et al. (hereinafter referred to as "Kearney et al."), International Publication No. WO 96/10650 to Hyoky et al. (hereinafter referred to as "Hyoky et al."), or U.S. Patent No. 6,379,735 to Yukio et al. (hereinafter referred to as "Yukio et al.").

As indicated in the §116 amendment, applicants are particularly frustrated in that it seems the Examiner has not fully considered applicants remarks submitted in their response dated December 26, 2006. Despite arguments to the contrary, the final action reiterated many of the same comments from the previous office action. In particular, the Examiner again stated that Yukio et al. teach the fractionation of molasses (from sugar beet) using chromatography to obtain flavor components as is claimed. It was then concluded that flavor improvement would be no more than inherent to that of the prior art as the same components and process steps are used. Applicants strongly disagree.

It is respectfully submitted that the term “beet” is not mentioned in Yukio et al. and arguments were previously presented to evidence the fact that a person skilled in the art reading Yukio et al. would understand that said patent is directed to sugar cane and not to sugar beet. As indicated in applicants’ previous response, it was argued that Yukio et al. relate to a method for preparing a sugar-like flavorful component based on the components of molasses, which are used as the usual foods (see column 3, line 3). This indicates that the molasses of Yukio et al. are of cane origin and not of beet origin, as in the present invention, since only cane molasses are used as foods. The Examiner has remained silent with respect to this argument. If need be, although it is believed to be unnecessary, applicants can provide a Declaration by an expert in the sugar field to show that the subject matter of Yukio et al. clearly relates to the fractionation of molasses from cane sugar.

Further, the Examiner also repeated the allegation that Yukio et al. discloses the fractionation of molasses using chromatography. It is respectfully stressed that Yukio et al. has nothing to do with chromatography. Nowhere in Yukio et al. is the term “chromatography” used or alluded to. On the contrary, the fractionation process of Yukio et al. is accomplished using so-called SCC equipment, i.e. a spinning cone column. This SCC equipment, as is clearly shown in Figure 3 of Yukio et al., and as was previously argued by applicants, is distillation equipment and has nothing to do with chromatography.

It must be understood that the distillation occurring in Yukio et al. by the very nature of the fractionation recovers ONLY volatile components of the molasses. Thus, the essentially non-volatile components of the present invention cannot be obtained by the process of Yukio et al. The fractionation process of the present invention includes evaporation, the opposite to distillation, i.e. involves the removal of volatile components

from the product.

To reiterate the above, as was previously argued, and apparently overlooked by the Examiner, the flavorful product recovered in Yukio et al. consists of the volatile components of molasses while the product of the present invention specifically comprises essentially non-volatile components, by which is meant components, which remain in solution even though they are subjected to evaporative (distilling) operations (see the specification, page 10, lines 28 to 31). Although the distillation of Yukio et al. is also a fractionation process, it is not one, which provides a product of essentially non-volatile character. In fact, the evaporation of the present invention is the counterpart of distillation. In an evaporation, as in the present invention, the volatile components are removed. In a distillation, as in Yukio et al., the volatile components are recovered. Consequently, it should be quite clear to the skilled artisan that the components recovered by the spinning cone distillation at 40 to 60 °C in Yukio et al. are volatile chemical compounds totally different from the non-volatile chemical compounds, which remain in solution despite evaporation at 60 to 70 °C and which make up the mixture of the present invention. Simply stated, as the SCC process used by Yukio et al. is a distillation process, it cannot possibly yield the non-volatile components obtained by the present invention.

To more clearly differentiate the claimed invention from Yukio et al., as well as the other prior art, the definition of “fractionation” found in claim 1 has been amended to “ a fractionation, which includes a combination of chromatographic separation and membrane filtration”. Basis for this amendment can be found in claim 3 and the specification itself. These two fractionation steps, i.e. chromatographic separation and membrane filtration, influence the end product in different ways and provide a product having a totally different composition and totally different properties from any of those

obtained by the fractionations used in the cited references. None of the cited art includes any reference to a membrane filtration and the removal of large molecules which is provided thereby. Further, it is respectfully submitted that the low betaine amount (less than 1%) present in the non-volatile mixture of the present invention can only be obtained by chromatographic means. The amended term undoubtedly distinguishes the present invention from that of Yukio et al. coupled with the understanding that the stripping in the SCC distillation apparatus of Yukio et al. recovers only volatiles.

Although Yukio et al. teaches a volatile flavor improver, its clear distinction from the present invention precludes it from being used as prior art against the present invention. Thus, Yukio et al. cannot be used in combination with either Kearney et al. or Hyoky et al to make obvious the flavor improving character of the non-volatile mixture of the present invention.

Kearney et al., although based on chromatographic techniques, does not disclose a process for producing a flavor improver. The by-product of Kearney et al. (the raw syrup raffinate) is said to be suitable for use as an animal feed or as a chemical feedstock. The raffinate obtained in Example 1 of Kearney et al. contains 2.8 % betaine (see Table at the end of Example 1), which takes it outside the scope of the present invention. Hyoky et al. while also being based on chromatographic techniques, do not perform the process *for providing* a flavor improver as in the process claims of the present invention nor do Hyoky et al. suggest the use of the residual fraction as a flavor improver.

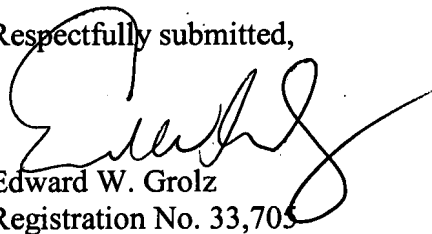
Yukio et al. cannot be used to make the flavor improving character of a non-volatile by-product of a chromatographic separation (such as those disclosed by Kearney et al. and Hyoky et al.) obvious since Yukio et al.'s distillation process collects only volatile components, said volatile components expected to provide a nice flavor. That is, while it comes as no surprise to a person skilled in the art that the volatile components of

molasses can provide a sugar-like flavor as in Yukio et al., it is by no means obvious that the non-volatile components can provide a flavor improver. The residue after the removal of the volatiles is typically a musty dark fluid that most people would not even like to taste. It is a dark, dirty and foul smelling product used mainly as animal feed. It was highly surprising to applicants that the product actually could improve taste. It is interestingly noted that the product of the present invention is already on the U.S. market and has had commercial success as a flavor improver in beverages and in dairy products. The product has obtained FEMA GRAS approval.

Finally, it is noted that a new claim, i.e. claim 65, has been added. Said claim clearly sets forth a fractionation system including chromatographic separation. As discussed above, such a fractionation system clearly distinguishes the claimed invention from that taught by Yukio et al., with the remaining prior art references incapable of compensating for the difference.

Based on the above amendments and remarks, it is respectfully requested that the rejection of the pending claims be withdrawn. Finally, it is submitted that all the claims presently pending in the application contain patentable subject matter and a Notice of Allowance is earnestly solicited.

Respectfully submitted,



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